SITE ASSESSMENT REPORT
FOR THE
EUCLID TOWNHOMES SITE
DETROIT, WAYNE COUNTY, MICHIGAN

Prepared for:

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region V
Emergency Response Branch
9311 Groh Road
Grosse Ile, MI 48138

Prepared by:

WESTON SOLUTIONS, INC.
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Contract No.:	EP-S5-06-04
WESTON START Project Manager:	Lori Kozel
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U.S. EPA On-Scene Coordinator:	Tricia Edwards

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Prepared by: Matthew C. Beer Date 11/17/10
Matthew Beer
WESTON START Site Lead

Reviewed by: Lori A. Kozel Date 11/17/10
Lori Kozel
WESTON START Project Manager

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LIST OF ABBREVIATIONS AND ACRONYMS

DEA	Department of Environmental Affairs
GPS	Global positioning system
MDNRE	Michigan Department of Natural Resources and Environment
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
OSC	On-Scene Coordinator
ppm	Part per million
SA	Site assessment
START	Superfund Technical Assessment and Response Team
U.S. EPA	United States Environmental Protection Agency
VSP	Visual Sampling Plan
WESTON	Weston Solutions, Inc.
XRF	X-ray fluorescence

1. INTRODUCTION

Under Technical Direction Document No. S05-0001-1005-037, the United States Environmental Protection Agency (U.S. EPA) tasked the Weston Solutions, Inc., (WESTON®), Superfund Technical Assessment and Response Team (START) to assist the U.S. EPA On-Scene Coordinator (OSC) in performing a site assessment (SA) at the Euclid Townhomes Site in Detroit, Wayne County, Michigan (the Site) (**Figure 1-1**). Specifically, U.S. EPA requested that WESTON START assess and collect x-ray fluorescence (XRF) readings from surficial soil; collect soil samples based on the XRF readings; collect photographic documentation; and evaluate the potential for imminent and substantial threats to human health, human welfare, and the environment posed by the Site. The SA was conducted on June 28, 2010, under the direction of OSC Tricia Edwards.

This SA report is organized into the following sections:

- **Introduction** – Provides a brief description of the objective and scope of SA activities;
- **Site Background** – Details the Site description and history;
- **Site Assessment Activities** – Discusses the Site reconnaissance, Site observations, and sampling activities during the SA;
- **XRF Results** – Discusses XRF results for samples collected during the SA; and
- **Conclusions** – Summarizes Site assessment findings.

Figures and tables are presented after the conclusions section. In addition, this SA report contains one appendix, Appendix A, which provides photographic documentation of Site conditions during the SA.

2. SITE BACKGROUND

This section discusses the Site description and history.

2.1 SITE DESCRIPTION

The Site is located at the intersection of West Euclid Avenue and Second Avenue. The Site's

approximate geographical coordinates are 42° 22' 35" North latitude and 83° 04' 51" West longitude. **Figure 1-1** shows the Site location. The Site currently consists of an open grassy lot with no buildings or structures and is approximately 0.6 acres in size. The Site is approximately 4 miles north from the Detroit River.

The Site property is bordered to the north and east by residential properties, to the south by West Euclid Avenue, and to the west by 2nd Avenue. A school is located approximately 600 feet northeast of the Site.

2.2 SITE HISTORY

Historical aerial images show that no structures have been present at the Site since 1999. In May 2010, the City of Detroit Department of Environmental Affairs (DEA) requested assistance from the U.S. EPA Region 5 Emergency Response Branch in performing a SA to evaluate potential threats to human health and the environment posed by the Site.

On May 25, 2010, U.S. EPA, WESTON START, and the City of Detroit conducted a windshield survey of the Site property and observed the current status of the Site before conducting the SA. The Site was observed to consist of a vacant parcel with overgrown vegetation and no buildings or other structures. The Site had no perimeter fencing or obstructions to deter people or wildlife from entering the property.

3. SITE ASSESSMENT ACTIVITIES

The SA was conducted to evaluate potential threats to human health and the environment posed by metals at the Site and to evaluate the need for further response actions. The following sections discuss the Site reconnaissance, Site observations, and sampling activities conducted during the SA.

3.1 SITE RECONNAISSANCE

On June 28, 2010, U.S. EPA OSC Tricia Edwards and WESTON START members Matthew Beer, Steve Kidder, and Lori Kozel mobilized to the Site. Mr. Robert Brown with the City of

Detroit DEA was also present at the Site during the SA. After a brief safety meeting and equipment setup, U.S. EPA and WESTON START personnel began locating the predetermined screening locations identified by the Visual Sampling Plan (VSP) software using a global positioning system (GPS) and flagged each location for screening. **Figure 3-1** shows the screening locations, which are discussed in more detail in Section 3.3 below. During the Site reconnaissance, WESTON START also collected written and photographic documentation of current Site conditions. **Appendix A** provides a photographic log of Site conditions at the time of the Site reconnaissance.

3.2 SITE OBSERVATIONS

At the time of the SA discussed in this report, the Site was a vacant parcel with overgrown vegetation and no buildings. A bike path was observed crossing from the northwest to the southeast corner of the property. The Site had no perimeter fencing or obstructions to deter people or wildlife from entering the property. No hazards were identified during SA activities.

3.3 XRF SCREENING ACTIVITIES

During the SA, WESTON START performed XRF screening for selected metals of surface soil throughout the Site using an Innov-X XRF analyzer. **Figure 3-1** shows the screening locations. WESTON START used the sampling design generated for the Site by the VSP software to identify the XRF screening and potential sampling locations. The VSP software identified 4 screening locations to locate a hotspot with a 50-foot-radius with a 95 percent probability. The VSP software provided coordinates for each location and the points were evenly distributed across the Site. The XRF analyzer was used to screen the surface soil at each pre-determined location. Where required, surface vegetation was removed to create a flat surface to collect accurate XRF readings.

One additional screening location was added to the property at the discretion of the OSC. A random point was chosen within the bike path crossing the property, XRF screening was performed, and the location of the screening point was collected using GPS.

Based on Site observations and XRF results for the 5 locations, the OSC directed WESTON START to collect no soil samples from the Site.

4. XRF RESULTS

Table 4-1 summarizes the XRF results for the 5 XRF screening locations, and **Figure 4-1** summarizes the XRF lead screening results. The XRF analyzer provides results for 21 metals and typically is used for lead assessments. Historical data evaluations support the correlation between actual sample data from the laboratory and XRF field screening results. For this SA, WESTON START focused on the lead and arsenic concentrations in surficial soils. Both lead and arsenic contamination typically are of concern in industrial areas in the City of Detroit.

The XRF lead screening results ranged from 42 to 135 parts per million (ppm), with the highest result detected at EUC-02. According to the Michigan Department of Natural Resources and Environment (MDNRE) Part 201 - Residential and Commercial I Direct Contact Criteria, a total lead value in soil exceeding 400 ppm and a total arsenic value exceeding 7.6 ppm present a direct contact risk. No XRF screening locations (1) exceeded the lead value of 400 ppm or (2) exceeded the arsenic value of 7.6 ppm. The XRF results also were compared to the State of Michigan Default Background levels; of which iron, lead, and zinc results exceeded the background levels but were below the MDNRE Part 201 Residential and Commercial I Direct Contact Criteria.

5. CONCLUSIONS

Based on the XRF readings, no locations exceeded the MDNRE Part 201 - Residential and Commercial I Direct Contact Criteria for either lead or arsenic. The XRF results were compared to the State of Michigan Default Background levels; of which iron, lead, and zinc results exceeded the background levels but were below the MDNRE Part 201 Residential and Commercial I Direct Contact Criteria. The XRF readings were below hazardous levels, and the screening locations were covered with vegetation at the time of sampling. The focus of this SA was surface soil and potential metals contamination only. A thorough historical review of the

Site was not conducted, and other contaminants and deeper subsurface conditions were not assessed.

FIGURES

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U.S. EPA REGION V
Contract No.: EP-S5-06-04
TDD: S05-0001-1005-036
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Detroit, Michigan 48235

Figure 1-1
Site Location Map
Euclid Townhomes SA
Detroit, Wayne County, Michigan

File: D:\Detroit_XRF\mxd\Euclid\Report\F1-1_Euclid_Location.mxd, 10-Sep-10 10:18, wojdakon

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Figure 3-1
Sampling Location Map
Euclid Townhomes SA
Detroit, Wayne County, Michigan

File: D:\Detroit_XRF\mxd\Euclid\Report\F3-1_Euclid_Actuals.mxd, 10-Sep-10 10:18, woidakon

File: D:\Detroit_XRF\mxd\Euclid\Report\F4-1_Euclid_XRF_Pb.mxd, 10-Sep-10 10:18, wojdakon

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Figure 4-1
XRF Lead Results
Euclid Townhomes SA
Detroit, Wayne County, Michigan

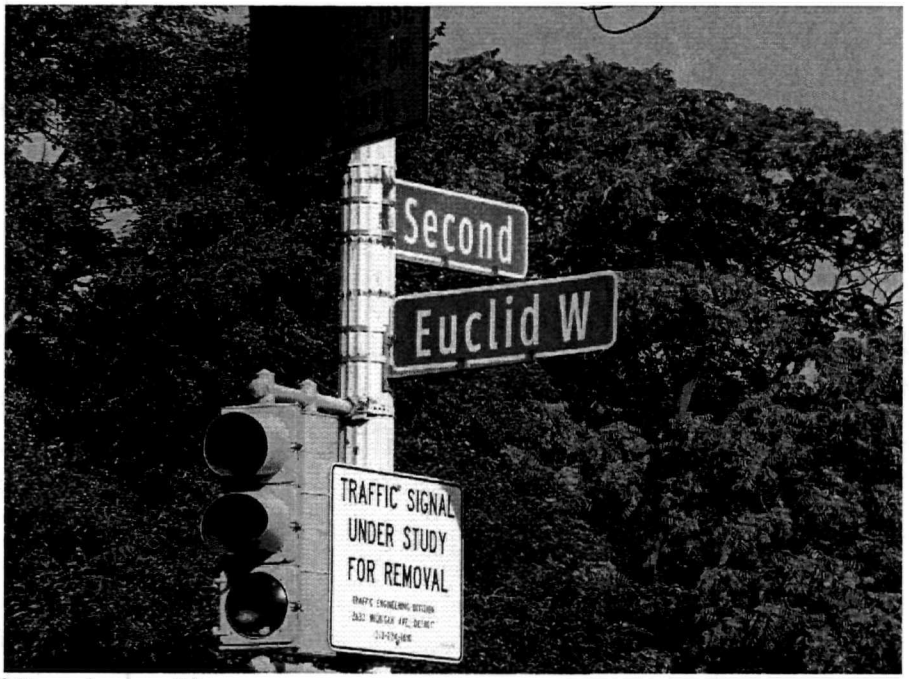
TABLES

Table 4-1
XRF Results – Metals Sample Summary
Euclid Site Assessment
Detroit, Wayne County, Michigan

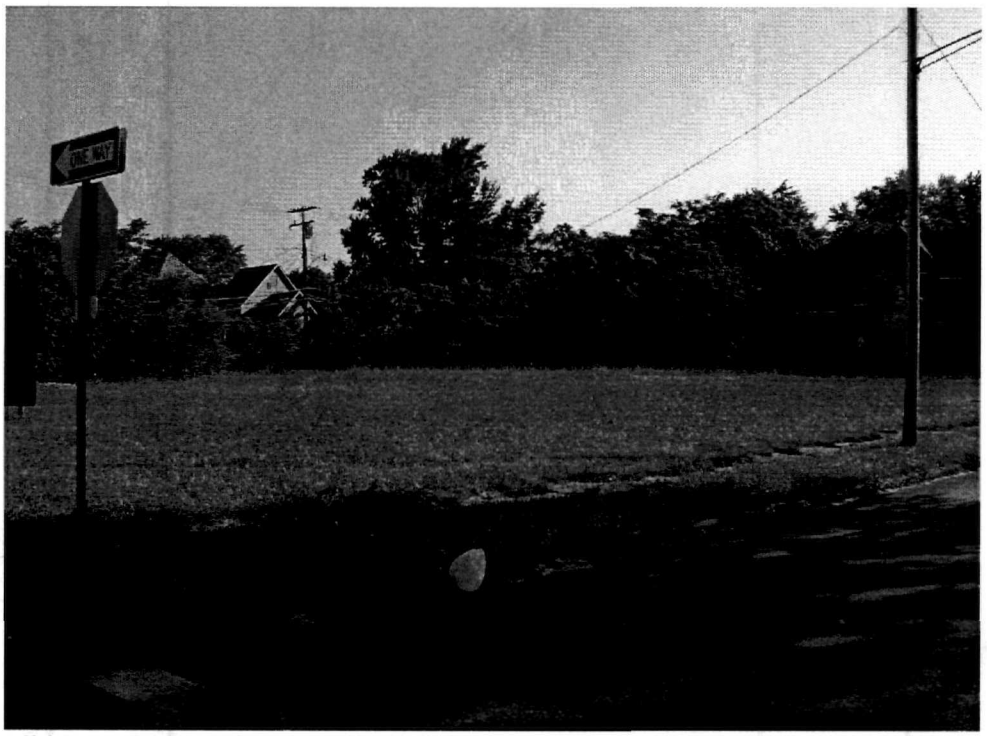
Chemical Name	State Default Background (ppm)	Field Sample ID / Sample Date / Regulatory Limit Soil [a] (ppm)	EUC-01 6/28/2010	EUC-02 6/28/2010	EUC-03 6/28/2010	EUC-04 6/28/2010	EUC-BIKE PATH 6/28/2010
Antimony	NA	180	< LOD	< LOD	< LOD	< LOD	< LOD
Arsenic	5.8	7.6	< LOD	< LOD	< LOD	< LOD	< LOD
Barium	75	37,000	< LOD	< LOD	< LOD	< LOD	< LOD
Cadmium	1.2	550	< LOD	< LOD	< LOD	< LOD	< LOD
Chromium	NA	NA	< LOD	< LOD	< LOD	< LOD	< LOD
Cobalt	6.8	2,600	< LOD	< LOD	< LOD	< LOD	< LOD
Copper	32	20,000	< LOD	< LOD	< LOD	< LOD	< LOD
Iron	12,000	160,000	11,180	14,205	18,264	16,119	17,625
Lead	21	400	88	135	42	571	102
Manganese	440	25,000	168	168	148	< LOD	144
Mercury	0.13	160	< LOD	< LOD	< LOD	< LOD	< LOD
Molybdenum	NA	2,600	< LOD	< LOD	< LOD	< LOD	< LOD
Nickel	20	40,000	< LOD	< LOD	< LOD	< LOD	< LOD
Rubidium	NA	NA	25	44	55	51	59
Selenium	0.41	2,600	< LOD	< LOD	< LOD	< LOD	< LOD
Silver	1	2,500	< LOD	< LOD	< LOD	< LOD	< LOD
Strontium	NA	330,000	154	103	91	141	166
Tin	NA	NA	< LOD	< LOD	< LOD	< LOD	< LOD
Titanium	NA	NA	< LOD	1,640	2,638	2,193	3,736
Zinc	47	170,000	181	137	84	114	108
Zirconium	NA	NA	41	88	116	107	132

Notes:
Result exceeds State Default Background level.
Bold result exceeds MDNRE Part 201 - Direct Contact Residential and Commercial I Soil Criteria
ID = Identification
LOD = Level of detection
MDNRE = Michigan Department of Natural Resources and Environment
NA = Not available
ppm = Part per million
a Based on MDNRE Part 201 - Direct Contact Residential and Commercial I Soil Criteria

APPENDIX A
PHOTOGRAPHIC DOCUMENTATION



Site: Euclid Townhomes Site
Photograph No.: 1 **Date:** 6/28/10
Direction: West **Photographer:** M. Beer
Subject: Site located at the northeast corner of Second Street and West Euclid Street



Site: Euclid Townhomes Site
Photograph No.: 2 **Date:** 6/28/10
Direction: Northwest **Photographer:** M. Beer
Subject: Northwest view of the Euclid Townhomes Site

Site: Euclid Townhomes Site
Photograph No.: 3 **Date:** 6/28/10
Direction: Down **Photographer:** M. Beer
Subject: X-Ray Florescence (XRF) screening of surface soils